

Claims

1. An optical filter comprising: a core; and a cladding formed on the outer periphery of said core and having a smaller refractive index than that of said core, characterized: in that said core portion contains a damping dopant for adjusting the intensity of a received signal within a permissible range and a photosensitive dopant for causing a refractive index change of a long life by the irradiation of an ultraviolet ray; and in that said core portion has a refractive index grating formed for selectively reflecting an input light.

2. An optical filter comprising: a core; and a cladding formed on the outer periphery of said core and having a smaller refractive index than that of said core, characterized: in that said core portion contains a damping dopant for adjusting the intensity of a received signal within a permissible range and a photosensitive dopant for causing a refractive index change of a long life by the irradiation of an ultraviolet ray; and in that said core portion uses an optical fiber having a predetermined length and has a refractive index grating formed for selectively reflecting an input light.

3. An optical filter as set forth in claim 1 or 2, characterized in that the grating vector of the refractive index grating is the Bragg diffraction grating.

4. An optical filter as set forth in any of claims 1 to 3, characterized in that said refractive index grating is a

chirped grating.

5. An optical filter as set forth in claim 4, characterized in that the reflection spectrum of the chirped grating has an inclining function to the wavelength of the incident light.

6. An optical filter as set forth in any of claims 1 to 5, characterized in that said damping dopant is made of at least one kind of element selected from transition metallic elements including Co, V, Ni, Ti, Fe, Cr and Mn.

7. An optical filter as set forth in any of claims 1 to 6, characterized in that the photosensitive dopant is made of at least one kind of element selected from the elements which belong to the 3B group of the periodic table such as B and Al, the 4B group of the periodic table such as Ge, Sn and Pb, and the 5B group of the periodic table such as N, P and Sb.

8. An optical filter as set forth in any of claims 1 to 7, characterized in that said photosensitive dopant is contained in a cladding formed on the outer periphery of the core.

9. An optical filter as set forth in any of claims 2 to 8, characterized in that the optical fiber is accommodated in a ferrule in an optical connector.

10. An optical filter as set forth in claim 9, characterized in that the optical connector is an optical PAD connector having male and female connection terminals formed at its two end portions.

11. An optical filter as set forth in claim 10,

**characterized in that the optical PAD connector is an SC, MU,
FC or LC type PAD connector.**